Connecting via Winsock to STN

```
Welcome to STN International! Enter x:x
```

LOGINID:ssspta1202txn

#### PASSWORD:

NEWS IPC8

TERMINAL (ENTER 1, 2, 3, OR ?):2

```
* * * * * * * * * * Welcome to STN International
                                                   * * * * * * * * * *
NEWS 1
                 Web Page for STN Seminar Schedule - N. America
NEWS 2 JAN 02 STN pricing information for 2008 now available
NEWS 3 JAN 16
                 CAS patent coverage enhanced to include exemplified
                 prophetic substances
NEWS 4 JAN 28 USPATFULL, USPAT2, and USPATOLD enhanced with new
                 custom IPC display formats
NEWS 5 JAN 28 MARPAT searching enhanced
NEWS 6 JAN 28 USGENE now provides USPTO sequence data within 3 days
                 of publication
NEWS 7 JAN 28 TOXCENTER enhanced with reloaded MEDLINE segment
NEWS 8 JAN 28 MEDLINE and LMEDLINE reloaded with enhancements
NEWS 9 FEB 08 STN Express, Version 8.3, now available
NEWS 10 FEB 20 PCI now available as a replacement to DPCI
NEWS 11 FEB 25 IFIREF reloaded with enhancements
NEWS 12 FEB 25 IMSPRODUCT reloaded with enhancements
NEWS 13 FEB 29 WPINDEX/WPIDS/WPIX enhanced with ECLA and current
                 U.S. National Patent Classification
NEWS 14 MAR 31
                IFICDB, IFIPAT, and IFIUDB enhanced with new custom
                 IPC display formats
NEWS 15 MAR 31 CAS REGISTRY enhanced with additional experimental
NEWS 16 MAR 31
                 CA/CAplus and CASREACT patent number format for U.S.
                 applications updated
NEWS 17 MAR 31 LPCI now available as a replacement to LDPCI
NEWS 18 MAR 31 EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS 19 APR 04 STN AnaVist, Version 1, to be discontinued
NEWS 20 APR 15 WPIDS, WPINDEX, and WPIX enhanced with new
                 predefined hit display formats
NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3.
             AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008
              STN Operating Hours Plus Help Desk Availability
NEWS HOURS
NEWS LOGIN
              Welcome Banner and News Items
```

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

For general information regarding STN implementation of IPC 8

FILE 'HOME' ENTERED AT 10:41:38 ON 23 APR 2008

=> file req

COST IN U.S. DOLLARS

SINCE FILE ENTRY

0.21

TOTAL SESSION 0.21

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 10:42:15 ON 23 APR 2008 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2008 American Chemical Society (ACS)

Property values tagged with IC are from the  ${\tt ZIC/VINITI}$  data file provided by InfoChem.

STRUCTURE FILE UPDATES: 22 APR 2008 HIGHEST RN 1016649-50-5 DICTIONARY FILE UPDATES: 22 APR 2008 HIGHEST RN 1016649-50-5

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2008.

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>

Uploading C:\Program Files\Stnexp\Queries\10667111.str

```
chain nodes :
15 18
ring nodes :
```

1 2 3 4 5 6 7 8 9 10 11 12 13 14 chain bonds:

9-15

ring bonds :

1-12 1-6 2-3 3-4 4-5 5-6 5-7 6-10 7-8 7-11 7-14 8-9 9-10 11-12 12-13 13-14

exact/norm bonds :

8-9 9-10 9-15 exact bonds :

5-7 6-10 7-8 7-11 7-14 11-12 12-13 13-14

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 isolated ring systems : containing 1 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:CLASS 18:CLASS 19:Atom

#### L1 STRUCTURE UPLOADED

=> T.1

L1 IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system. For a list of commands available to you in the current file, enter "HELP COMMANDS" at an arrow prompt (->).

=> d l1 L1 HAS NO ANSWERS

Structure attributes must be viewed using STN Express query preparation.

=> s 11 SAMPLE SEARCH INITIATED 10:42:44 FILE 'REGISTRY' SAMPLE SCREEN SEARCH COMPLETED - 24 TO ITERATE

100.0% PROCESSED 24 ITERATIONS 5 ANSWERS SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*
PROJECTED ITERATIONS: 187 TO 773
PROJECTED ANSWERS: 5 TO 234

L2 5 SEA SSS SAM L1

=> s 11 ful FULL SEARCH INITIATED 10:42:49 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - 393 TO ITERATE

100.0% PROCESSED 393 ITERATIONS 87 ANSWERS SEARCH TIME: 00.00.01

L3 87 SEA SSS FUL L1

=> file caplus COST IN U.S. DOLLARS

SINCE FILE TOTAL ENTRY SESSION FULL ESTIMATED COST 178.36 178.57

FILE 'CAPLUS' ENTERED AT 10:42:56 ON 23 APR 2008 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 23 Apr 2008 VOL 148 ISS 17 FILE LAST UPDATED: 22 Apr 2008 (20080422/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

http://www.cas.org/infopolicy.html

=> s 13

8 1.3 L4

=> d 14 1- ibib abs hitstr YOU HAVE REQUESTED DATA FROM 8 ANSWERS - CONTINUE? Y/(N):y

L4 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:619774 CAPLUS

DOCUMENT NUMBER: 147:52915

TITLE:

Preparation of spiro-cyclic quinazoline derivatives as phosphodiesterase inhibitors and antiviral agents Rawson, David James; Swain, Nigel Alan

INVENTOR(S):

Pfizer Limited, UK PATENT ASSIGNEE(S):

SOURCE: PCT Int. Appl., 110pp. CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

P	PATENT NO.						D	DATE			APPL	ICAT	D	DATE				
-						-	_						-					
W	WO 2007063391					A2 20070607				WO 2	006-	20061123						
W	WO 2007063391				A3		2007	0913										
		W:	ΑE,	AG,	AL,	AM,	AT,	AU,	AZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
			CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,
			GE,	GH,	GM,	GT,	HN,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KM,	KN,
			KP,	KR,	KZ,	LA,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,
			MN,	MW,	MX,	MY,	MZ,	NA,	NG,	NI,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,
			RS.	RII.	SC.	SD.	SE.	SG.	SK.	SL.	SM.	SV.	SY.	T.T.	TM.	TN.	TR.	TT.

```
TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA
     NL 2000336
                                            NL 2006-2000336
                          A1
                                20070605
                                                                    20061127
     NL 2000336
                                20070807
     US 20070129388
                          A1
                                20070607
                                            US 2006-565953
                                                                    20061201
PRIORITY APPLN. INFO.:
                                            US 2005-741854P
                                                                   20051202
                                            US 2006-791186P
                                                                P 20060410
OTHER SOURCE(S):
                        MARPAT 147:52915
```

- AB Spiro-cyclic quinazoline derivs. I, wherein: n is 0-2; X is O, S, N-CN; R is F, Cl, CN; A is a C3-6 cyclo-alkylene group optionally substituted with a C1-4 alkyl group; and B is a single bond or a C1-2 alkylene group; or a pharmaceutically acceptable salt, solvate, polymorph or prodrug thereof for the treatment of diseases or conditions for which therapy by a phosphodiesterase 7 (PDE7) inhibitor is relevant, wherein the disease or condition is selected from pain, T-cell-related diseases, autoimmune diseases, multiple sclerosis, osteoporosis, chronic obstructive pulmonary disease, asthma, cancer, acquired immune deficiency syndrome (AIDS), allergy, or inflammatory bowel disease. The compds. are PDE7 inhibitors and have a number of therapeutic applications, particularly in the treatment of pain, especially neuropathic pain. Thus, title quinazoline II was prepared from 8'-chloro-5'-hvdroxy-1'H-spiro(cyclohexane-1,4'-guinazolin)-2'(3'H)one via oxidation of 8'-Chloro-5'-{[cis-3-(hydroxymethyl)cyclobutyl]oxy}-1'Hspiro[cyclohexane-1,4'-quinazolin]-2'(3'H)-one with periodic acid.
- IT 908570-12-7P 908570-13-8P 939768-47-5P 939768-48-6P 939768-49-7P 939768-50-0P
  - 939768-51-1P

RL: PAC (Pharmacological activity); PKT (Pharmacokinetics); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of spiro-cyclic quinazoline derivs. as phosphodiesterase inhibitors and antiviral agents)

- RN 908570-12-7 CAPLUS
- CN Cyclobutanecarboxylic acid, 3-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]-, cis- (CA INDEX NAME)

- RN 908570-13-8 CAPLUS
- CN Cyclobutanecarboxylic acid, 3-[(8'-chloro-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]-, trans-NAME)

- RN 939768-47-5 CAPLUS
- CN Cyclobutanecarboxylic acid, 3-[[[8'-fluoro-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl]oxy]methyl]- (CA INDEX
  NAME)

RN 939768-48-6 CAPLUS

CN Cyclobutanecarboxylic acid, 3-[(8'-cyano-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]-, trans-NAME)

Relative stereochemistry.

HO2C

RN 939768-49-7 CAPLUS

CN Cyclobutanecarboxylic acid, 1-[[[8'-fluoro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazoline]-5'-y1]oxy]methyl]- (CA INDEX NAME)

RN 939768-50-0 CAPLUS

CN Cyclobutanecarboxylic acid, 3-[[8'-chloro-2',3'-dihydro-2'oxospiro[cycloheptane-1,4'(1'H)-quinazoline]-5'-yl]oxy]-, trans- (CA INDEX NAME)

RN 939768-51-1 CAPLUS

CN Cyclobutanecarboxylic acid, 3-[[8'-chloro-2',3'-dihydro-2'oxospiro[cvclopentane-1,4'(1'H)-quinazolin]-5'-vl]oxy]-, trans- (CA INDEX NAME)

Relative stereochemistry.

939768-70-4 939768-71-5 939768-72-6 939768-73-7

RL: PRP (Properties)

(preparation of spiro-cyclic quinazoline derivs. as phosphodiesterase inhibitors and antiviral agents)

RN 939768-70-4 CAPLUS CN

Cyclobutanecarboxylic acid, 3-[[8'-chloro-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'(1'H)-quinazoline]-5'-yl]oxy]-, trans-, compd. with N, N-dimethylacetamide (1:2) (CA INDEX NAME)

CM 1

CRN 908570-13-8

CMF C18 H21 C1 N2 O4

10/ 667,111

CM 2

CRN 127-19-5 CMF C4 H9 N O

Me

Me-N-Ac

RN 939768-71-5 CAPLUS CN Cyclobutanecarboxyl

Cyclobutanecarboxylic acid, 3-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]-, trans-, compd. with pyridine (1:1) (CA INDEX NAME)

CM 1

CRN 908570-13-8 CMF C18 H21 C1 N2 O4

Relative stereochemistry.

CM 2

CRN 110-86-1 CMF C5 H5 N



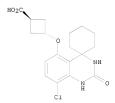
RN 939768-72-6 CAPLUS

CN Cyclobutanecarboxylic acid, 3-[[8'-chloro-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'(1'!l)-quinazoline]-5'-yl]oxy]-, trans-, compd. with tetrahydrofuran (1:1) (CA INDEX NAME)

CM 1

CRN 908570-13-8 CMF C18 H21 C1 N2 O4

Relative stereochemistry.



CM 2

CRN 109-99-9 CMF C4 H8 O



RN 939768-73-7 CAPLUS

NY 393/08-7- CALLOS CYCLOBUTANECATEDOXYLIC acid, 3-[(8'-chloro-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxyl-, trans-, compd. with 1,1'-sulfinylbis[methane] (1:7) (CA INDEX NAME)

CM 1

CRN 908570-13-8 CMF C18 H21 C1 N2 O4

CM 2

CRN 67-68-5 CMF C2 H6 O S

IT 939768-67-9

RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of spiro-cyclic quinazoline derivs. as phosphodiesterase inhibitors and antiviral agents)

RN 939768-67-9 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-fluoro-5'-hydroxy-(CA INDEX NAME)

```
IT 460346-02-5P 460346-10-5P 674336-39-1P 908570-15-0P 908570-16-1P 908570-18-3P 908570-19-4P 939768-52-2P 939768-53-3P 939768-54-4P 939768-55-5P 939768-56-6P
```

939768-57-7P 939768-61-3P 939768-62-4P

939768-63-5P 939768-66-8P 939768-69-1P RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of spiro-cyclic quinazoline derivs. as phosphodiesterase inhibitors and antiviral agents)

RN 460346-02-5 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-methoxy-

(CA INDEX NAME)

RN 460346-10-5 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-hydroxy-(CA INDEX NAME)

RN 674336-39-1 CAPLUS

CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-hydroxy-(CA INDEX NAME)

RN 908570-15-0 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[[cis-3[(phenylmethoxy)methyl]cyclobutyl]oxy]- (CA INDEX NAME)

- RN 908570-16-1 CAPLUS
- CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[[cis-3-(hydroxymethyl)cyclobutyl]oxy]- (CA INDEX NAME)

## Relative stereochemistry.

- RN 908570-18-3 CAPLUS
- CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[[trans-3-[(phenylmethoxy)methyl]cyclobutyl]oxy]- (CA INDEX NAME)

- RN 908570-19-4 CAPLUS
- CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[[trans-

3-(hydroxymethyl)cyclobutyl]oxy|- (CA INDEX NAME)

Relative stereochemistry.

RN 939768-52-2 CAPLUS

CN Cyclobutanecarboxylic acid, 3-[[8'-chloro-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'('1'H)-quinazoline]-5'-y1]oxy]-, 1,1-dimethylethyl ester, trans- (CA INDEX NAME)

Relative stereochemistry.

RN 939768-53-3 CAPLUS

CN Cyclobutanecarboxylic acid, 3-[[8'-chloro-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'(1'H)-quinazoline]-5'-yl]oxy]-, trans-, acetate (1:1) (CA INDEX NAME)

CM 1

CRN 908570-13-8 CMF C18 H21 C1 N2 O4

CM 2

CRN 64-19-7 CMF C2 H4 O2

RN 939768-54-4 CAPLUS

CN Cyclobutanecarboxylic acid, 3-[[[8'-fluoro-2',3'-dihydro-2'-oxospiro(cyclohexane-1,4'(1'H)-quinazoline]-5'-yl]oxy]methyl]-, phenylmethyl ester, cis- (CA INDEX NAME)

Relative stereochemistry.

RN 939768-55-5 CAPLUS

CN Cyclobutanecarboxylic acid, 1-[[[8'-fluoro-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'(1'H)-quinazoline]-5'-yl]oxy]methyl]-, methyl ester (CA INDEX NAME)

RN 939768-56-6 CAPLUS

CN Cyclobutanecarboxylic acid, 3-[[8'-chloro-2',3'-dihydro-2'oxospiro(cycloheptane-1,4'(1'H)-quinazoline]-5'-yl]oxy]-, ethyl ester, trans- (CA INDEX NAME)

Relative stereochemistry.

RN 939768-57-7 CAPLUS

CN Cyclobutanecarboxylic acid, 3-[[8'-chloro-2',3'-dihydro-2'oxospiro[cyclopentane-1,4'(1'H)-quinazolin]-5'-yl]oxy]-, 1,1-dimethylethyl ester, trans- (CA INDEX NAME)

RN 939768-61-3 CAPLUS
CN Spiro[cyclohexane-1,4'(1'H)-quinazoline]-8'-carbonitrile,

2',3'-dihydro-5'-[[trans-3-(hydroxymethyl)cyclobutyl]oxy]-2'-oxo- (CA INDEX NAME)

Relative stereochemistry.

RN 939768-62-4 CAPLUS

CN Spiro[cycloheptane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-methoxy-(CA INDEX NAME)

RN 939768-63-5 CAPLUS

CN Spiro[cycloheptane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-hydroxy-(CA INDEX NAME) 10/ 667,111

RN 939768-66-8 CAPLUS

CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-methoxy-(CA INDEX NAME)

RN 939768-69-1 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-hydroxy-, acetate (1:1) (CA INDEX NAME)

CM 1

CRN 460346-10-5 CMF C13 H15 C1 N2 O2

CM 2

CRN 64-19-7 CMF C2 H4 O2

L4 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:918813 CAPLUS

DOCUMENT NUMBER: 145:315261

TITLE: Use of combinations of PDE7 inhibitors and

alpha-2-delta ligands for the treatment of neuropathic

pain

INVENTOR(S): Cox, Peter; Kinloch, Ross Anderson; Maw, Graham Nigel

PATENT ASSIGNEE(S): Pfizer Limited, UK SOURCE: PCT Int. Appl., 101pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

F

	PATENT NO.					KIND DATE					APPI	ICAT	DATE								
	WO 2006092692					A1		20060908		WO 2006-IB385						20060216					
		W:	AE,	AG,	AL,	AM.	AT.	AU,	AZ.	BA,	BB,	BG,	BR.	BW.	BY.	BZ,	CA,	CH,			
			CN.	co.	CR.	CU.	CZ.	DE.	DK.	DM.	DZ.	EC.	EE.	EG.	ES.	FI.	GB,	GD,			
			GE.	GH.	GM.	HR.	HU.	TD.	TI.	TN.	TS.	JP,	KE.	KG.	KM.	KN.	KP.	KR.			
												MA.									
												PL,									
												TT,									
						ZM,		20,	,	,	,	,	,	011,	00,	00,	02,	,			
		DM.						CZ	DE	DE		ES,	ET	FD	CB	CP	LITT	TE			
		KW.										RO,									
												MR,									
			GM,	KE,	LS,	MW,	ΜZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,			
			KG,	ΚZ,	MD,	RU,	TJ,	TM													
	JP	2006	2411	58		A		2006	0914		JP 2	2006-	5275	9		2	0060	228			
	JP	2006	2411	59		A		2006	0914		JP 2	2006-	5341	5		2	0060	228			
PRIOR	RIORITY APPLN. INFO.:										GB 2005-4209			- 1	A 20050301						
											US 2	2005-	6757	61P	1	P 2	0050	427			
											US 2	2005-	7418	54P	1	P 2	0051	202			
							00 2000 1110011 1 20001202														

OTHER SOURCE(S): CASREACT 145:315261

- OTHER SOURCE(s):

  ABS The invention relates to a combination of a phosphodiesterase 7 (PDE7) inhibitor and an alpha-2-delta ligand or their pharmaceutically acceptable salts for use in the treatment of pain, particularly inflammatory, neuropathic, visceral and nociceptive pain. An example of a PDE7 inhibitor is cis-3-[(8'-chloro-2'-oxo-2',3'-dihydro-1'H-spiro[cyclohexane-1,4'-quinazolin]-5'-ylloxy]cyclobutanecarboxylic acid and an example of an alpha-2-delta ligand is (25)-2-amino-4-ethyl-2-methylhexanoic acid, syntheses of which are described.
- IT 460346-24-1P 908570-12-7P 908570-13-8P
  RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
  (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
  (Uses)
  - (combinations of PDE7 inhibitors and alpha-2-delta ligands for treatment of neuropathic pain)

RN 460346-24-1 CAPLUS

Butanoic acid, 4-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]- (9CI) (CA INDEX NAME)

RN 908570-12-7 CAPLUS

CN Cyclobutanecarboxylic acid, 3-[(8'-chloro-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]-, cis-NAME)

Relative stereochemistry.

RN 908570-13-8 CAPLUS

CN Cyclobutanecarboxylic acid, 3-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]-, trans- (CA INDEX NAME)

Relative stereochemistry.

IT 460346-10-5

RL: RCT (Reactant); RACT (Reactant or reagent) (combinations of PDE7 inhibitors and alpha-2-delta ligands for treatment of neuropathic pain)

- RN 460346-10-5 CAPLUS
- CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-hydroxy-(CA INDEX NAME)

- IT 908570-15-0P 908570-16-1P 908570-18-3P 908570-19-4P
  - RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
    - (combinations of PDE7 inhibitors and alpha-2-delta ligands for treatment of neuropathic pain)
- RN 908570-15-0 CAPLUS
- CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[[cis-3[(phenylmethoxy)methyl]cyclobutyl]oxy]- (CA INDEX NAME)

Relative stereochemistry.

- RN 908570-16-1 CAPLUS
- CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[[cis-3-(hydroxymethyl)cyclobutyl]oxy]- (CA INDEX NAME)

RN 908570-18-3 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[[trans-3-[(phenylmethoxy)methyl]cyclobutyl]oxy]- (CA INDEX NAME)

## Relative stereochemistry.

RN 908570-19-4 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[[trans-3-(hydroxymethyl)cyclobutyl]oxy]- (CA INDEX NAME)

# Relative stereochemistry.

14

REFERENCE COUNT:

THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:918625 CAPLUS

DOCUMENT NUMBER: 145:315008

TITLE: Preparation of spiro[cyclohexane-1,4'-quinazoline]

derivatives for use as PDE7 inhibitors for the

treatment of neuropathic pain

INVENTOR(S): Cox, Peter; Kinloch, Ross Anderson; Maw, Graham Nigel

PATENT ASSIGNEE(S): Pfizer Limited, UK

SOURCE: PCT Int. Appl., 108pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent

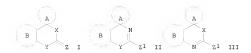
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3 PATENT INFORMATION:

PA	PATENT NO.												DATE					
WO	WO 2006092691						20060908		WO 2006-IB369						20060216			
	W:	ΑE,	AG,	AL,	AM,	AT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,	
		CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,	
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KM,	KN,	KP,	KR,	
		KZ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	
		MZ,	NA,	NG,	NI,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	
		SG,	SK,	SL,	SM,	SY,	ΤJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,	
		VN,	YU,	ZA,	ZM,	zw												
	RW:	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FΙ,	FR,	GB,	GR,	HU,	ΙE,	
		IS,	ΙT,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	ВJ,	
		CF,	CG,	CI,	CM,	GΑ,	GN,	GQ,	GW,	ML,	MR,	ΝE,	SN,	TD,	ΤG,	BW,	GH,	
							NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,	
		KG,	ΚZ,	MD,	RU,	ΤJ,	TM											
AU	2006						2006											
	2599													20060216				
EP	EP 1855686																	
	R:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,	
				LI,	LT,		LV,											
	JP 2006241159												20060228					
	KR 2007107099													20070831				
	MX 200710721												20070831					
	IN 2007DN07221						A 20071012			IN 2007-DN7221					20070919			
	CN 101146539						2008	0319					9067			0070		
PRIORIT	Y APP	LN.	INFO	. :							005-					0050		
									005-					0050				
							WO 2	006-	IB36	9		W 2	0060	216				

OTHER SOURCE(S): MARPAT 145:315008

GI



- AB Compds. I-III [Ring B = (un)substituted six-membered aryl or heteroaryl ring, Ring A = (un)substituted spirocycle or spiroheterocycle; Y = O or NH, NNHZ, etc.; Y = O, S, NH, etc.; Z = CHNOZ, O, S, etc.; Z1 = H, Me, NHZ, etc.] are disclosed as phosphodiesterase 7 (PDE7) inhibitors for use in the manufacture of a medicament for the treatment of neuropathic pain and to a method of treating neuropathic pain using an inhibitor of PDE7. Methods for preparing title compds. are given. Thus, e.g., IV was prepared by substitution of trans-3-[(benzyloxy|methyl|cyclobutyl|p-toluenesulfonate (preparation given) with 8'-chloro-5'-hydroxy-1'H-spirolcyclohexane-1,4'-quinazolin]-2'(3'H)-one followed by deprotection and oxidation In PDE7A inhibition assays, IV demonstrated a Ki value of 1.9 (NH).
- IT 908570-12-TP 908570-13-8P RL: PRC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of spiro[cyclohexane-1,4'-quinazoline] derivs. for use as PDE7 inhibitors for the treatment of neuropathic pain)

RN 908570-12-7 CAPLUS

Cyclobutanecarboxylic acid, 3-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxyl-, cis- (CA INDEX NAME)

- RN 908570-13-8 CAPLUS
- CN Cyclobutanecarboxylic acid, 3-[(8'-chloro-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]-, trans-NAME)

Relative stereochemistry.

- IT 460346-24-1
  - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(preparation of spiro[cyclohexane-1,4'-quinazoline] derivs. for use as PDE7 inhibitors for the treatment of neuropathic pain)

- RN 460346-24-1 CAPLUS
- CN Butanoic acid, 4-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]- (9CI) (CA INDEX NAME)

RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of spiro[cyclohexane-1,4'-quinazoline] derivs. for use as PDE7 inhibitors for the treatment of neuropathic pain)

RN 460346-10-5 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-hydroxy-(CA INDEX NAME)

IT 908570-15-0P 908570-16-1P 908570-18-3P

908570-19-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation of spiro[cyclohexane-1,4'-quinazoline] derivs, for use as PDE7

inhibitors for the treatment of neuropathic pain)

RN 908570-15-0 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[[cis-3[(phenylmethoxy)methyl]cyclobutyl]oxy]- (CA INDEX NAME)

Relative stereochemistry.

RN 908570-16-1 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[[cis-3-(hydroxymethyl)cyclobutyl]oxy]- (CA INDEX NAME)

RN 908570-18-3 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[[trans-3-[(phenylmethoxy)methyl]cyclobutyl]oxy]- (CA INDEX NAME)

## Relative stereochemistry.

- RN 908570-19-4 CAPLUS
- CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[[trans-3-(hydroxymethyl)cyclobutyl]oxy]- (CA INDEX NAME)

# Relative stereochemistry.

REFERENCE COUNT:

THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:689239 CAPLUS

DOCUMENT NUMBER: 141:332154

TITLE: Spiroquinazolinones as novel, potent, and selective

PDE7 inhibitors. Part 2: optimization of

5,8-disubstituted derivatives

AUTHOR(S):

Bernardelli, Patrick; Lorthiois, Edwige; Vergne, Fabrice; Oliveira, Chrystelle; Mafroud, Abdel-Kader; Proust, Emmanuelle; Pham, Nga; Ducrot, Pierre; Moreau, Francois; Idrissi, Moulay; Tertre, Anita; Bertin,

Bernadette; Coupe, Magali; Chevalier, Eric; Descours, Arnaud; Berlioz-Seux, Francoise; Berna, Patrick; Li,

Pfizer Global Research and Development, Fresnes, CORPORATE SOURCE:

94265, Fr. SOURCE: Bioorganic & Medicinal Chemistry Letters (2004),

14(18), 4627-4631

CODEN: BMCLE8; ISSN: 0960-894X PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:332154

The optimization of 5,8-disubstituted spirocyclohexane-quinazolinones into potent, selective, soluble PDE7 inhibitors with acceptable in vivo pharmacokinetic parameters is presented. It was also reported that 5'-carboxymethoxy-8'-chlorospiro(cyclohexane-1,4'-quinazolin)-2'(1'H)-one (I) and 8'-chloro-5'-(2-hydroxyethoxy)spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one were selected for studies in rat models.

460346-61-6P TΤ

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation of N-[2-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cvclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]ethyl]qlycine and study of its activity as phosphodiesterase (PDE7) inhibitor)

RN 460346-61-6 CAPLUS

Glycine, N-[2-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-CN quinazolin]-5'-yl)oxy]ethyl]-, monohydrochloride (9CI) (CA INDEX NAME)

#### HC1

- IT 460346-02-5P, 8'-Chloro-5'-methoxyspiro[cyclohexane-1,4'quinazolin]-2'(1'H)-one 460346-10-5P, 8'-Chloro-5'hydroxyspiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one 460346-28-5P
  , 8'-Chloro-5'-(2-hydroxyethoxy)spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)one 460346-31-0P
  - RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
    - (preparation of chlorospiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one derivs.
      and study of their activity as phosphodiesterase (PDE-7) inhibitors)
- RN 460346-02-5 CAPLUS
- CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-methoxy-(CA INDEX NAME)

- RN 460346-10-5 CAPLUS
- CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-hydroxy-(CA INDEX NAME)

- RN 460346-28-5 CAPLUS
- CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-(2-

hydroxyethoxy) - (CA INDEX NAME)

RN 460346-31-0 CAPLUS

CN Acetonitrile, [(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)quinazolin]-5'-yl)oxy]- (9CI) (CA INDEX NAME)

IT 460346-14-9P, 8'-Chloro-5'-[2-(4-morpholino)ethoxy]spiro[cyclohexa ne-1,4'-quinazolin]-2'(1'H)-one 460346-23-0P,

5'-Carboxymethoxy-8'-chlorospiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one 460346-32-1P, 8'-Chloro-5'-(1H-tetrazol-5-

ylmethoxy)spiro[cyclohexane-1,4'-quinazolin ]-2'(1'H)-one

460346-33-2P, 8'-Chloro-5'-(5-hydroxy-[1,2,4]oxadiazol-3-

460346-33-2P, 8'-Chloro-5'-(5-hydroxy-[1,2,4]oxadiazol-3-ylmethoxy)spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation of chlorospiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one derivs.
and study of their activity as phosphodiesterase (PDE-7) inhibitors)

RN 460346-14-9 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[2-(4-morpholinyl)ethoxy]- (CA INDEX NAME)

RN 460346-23-0 CAPLUS
CN Acetic acid, [(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]- (9C1) (CA INDEX NAME)

RN 460346-32-1 CAPLUS
CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-(1H-tetrazol-5-ylmethoxy)- (9CI) (CA INDEX NAME)

RN 460346-33-2 CAPLUS
CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[(2,5-

dihydro-5-oxo-1,2,4-oxadiazo1-3-v1)methoxv]- (CA INDEX NAME)

460346-15-0P, 8'-Chloro-5'-[2-(dimethylamino)ethoxylspiro[cyclohex ane-1, 4'-quinazolin]-2'(1'H)-one 460346-16-1P, 8'-Chloro-5'-(2-aminoethoxy)spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one 460346-18-3P, 8'-Chloro-5'-[2-(methylamino)ethoxy]spiro[cyclohexan e-1,4'-quinazolin]-2'(1'H)-one 460346-19-4P, 8'-Chloro-5'-[2-(2-aminoethoxy)ethoxy]spiro[cyclohexane-1,4'-quinazolin ]-2'(1'H)-one 460346-21-8P, 8'-Chloro-5'-[3-(dimethylamino)propoxy]spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one 460346-26-3P, 8'-Chloro-5'-(3-sulfopropoxy)spiro[cyclohexane-1,4'quinazolin]-2'(1'H)-one 460346-29-6P, 8'-Chloro-5'-(5ethoxycarbonylfuran-2-ylmethoxy)spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)one 460346-30-9P, 8'-Chloro-5'-(5-carboxyfuran-2ylmethoxy) spiro[cyclohexane-1, 4'-quinazolin]-2'(1'H)-one 460346-57-0P, 8'-Chloro-5'-[3-(dimethylamino)-2hydroxypropoxy]spiro[cyclohexane-1, 4'-qui nazolin]-2'(1'H)-one 460346-59-2P, 8'-Chloro-5'-(3-methylamino-2hydroxypropoxy)spiro[cyclohexane-1,4'-qui nazolin]-2'(1'H)-one RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation) (preparation of chlorospiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one derivs. and study of their activity as phosphodiesterase (PDE7) inhibitors) RN 460346-15-0 CAPLUS CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[2-

(dimethylamino)ethoxy |- (CA INDEX NAME)

RN 460346-16-1 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 5'-(2-aminoethoxy)-8'-

chloro- (CA INDEX NAME)

RN 460346-18-3 CAPLUS
CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[2-(methylamino)ethoxy]- (CA INDEX NAME)

RN 460346-19-4 CAPLUS
CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 5'-[2-(2-aminoethoxy)+6'-chloro- (CA INDEX NAME)

RN 460346-21-8 CAPLUS
CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[3-(dimethylamino)propoxy]- (CA INDEX NAME)

RN 460346-26-3 CAPLUS

CN 1-Propanesulfonic acid, 3-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]- (9CI) (CA INDEX NAME)

RN 460346-29-6 CAPLUS

CN 2-Furancarboxylic acid, 5-[[(8'-chloro-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]methyl]-, ethyl ester (9C1) (CA INDEX NAME)

RN 460346-30-9 CAPLUS

2-Furancarboxylic acid, 5-[[(8'-chloro-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]methyl]- (9CI) (CA INDEX NAME)

RN 460346-57-0 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[3-(dimethylamino)-2-hydroxypropoxy]- (CA INDEX NAME)

RN 460346-59-2 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[2-hydroxy-3-(methylamino)propoxy]- (CA INDEX NAME)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2004:689238 CAPLUS

ACCESSION NUMBER: 2004:689238 (
DOCUMENT NUMBER: 141:253666

TITLE: Spiroquinazolinones as novel, potent, and selective PDE7 inhibitors. Part 1
AUTHOR(S): Lorthiois, Edwige, Bernardelli, Patrick; Verqne,

Fabrice; Oliveira, Chrystelle; Mafroud, Abdel-Kader; Proust, Emmanuelle; Heuze, Lamia; Moreau, Francois; Idrissi, Moulay; Tertre, Anita; Bertin, Bernadette; Coupe, Magali; Wrigglesworth, Roger; Descours, Arnaud;

Soulard, Patricia; Berna, Patrick

CORPORATE SOURCE: Pfizer Global Research and Development, Fresnes,

94265, Fr.

SOURCE: Bioorganic & Medicinal Chemistry Letters (2004), 14(18), 4623-4626

CODEN: BMCLE8; ISSN: 0960-894X

PUBLISHER: Elsevier B.V. DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:253666

AB The synthesis and SAR studies of spiroquinazolinones as novel PDE7 inhibitors are discussed. The best compds. from the series displayed nanomolar inhibitory affinity and were selective vs. other PDE isoenzymes. IT 460345-40-8P

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP

preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (spiroquinazolinones as PDE7 inhibitors)

RN 460345-40-8 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 6'-methoxy- (CA INDEX NAME)

IT 460345-42-0P 460345-65-7P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
(Uses)

(spiroquinazolinones as PDE7 inhibitors)

RN 460345-42-0 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 7'-methoxy- (CA INDEX NAME)

RN 460345-65-7 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-6'-methoxy-(CA INDEX NAME)

REFERENCE COUNT:

24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2004:246965 CAPLUS

DOCUMENT NUMBER: 140:270874

TITLE:

Preparation of spirocondensed quinazolinones as phosphodiesterase inhibitors

INVENTOR(S): Bernardelli, Patrick; Vergne, Fabrice; Mendes,

Patent

Chrystelle; Ducrot, Pierre

PATENT ASSIGNEE(S): Warner-Lambert Company LLC, USA SOURCE: Eur. Pat. Appl., 20 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

LANGUAGE:

English FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	PAT	ENT	NO.			KIND DATE						ICAT						
	EP	EP 1400244			A1 20040324													
								ES,										
								RO,										
	CA	A 2499330				A1 20040401					CA 2	003-						
	WO	WO 2004026818								WO 2	003-							
		W:						AU,										
								DK,										
								IN,										
								MD,										
								RU,								ΤJ,	TM,	TN,
								US,										
		RW:						MZ,										
								TM,										
								IE,										
	3.77	2002						CM,										
						A1 20040408 A1 20050622												
	EP							ES,										
		Α:						RO.										FI,
	BD	2003														208		
		1681						2005										
			5012	77		т		2006	0112		JP 2	004-	5374	12		2	0030	908
	JP 2006501277 TW 251590											003-						
	US 20040106631													20030910				
	MX 2005PA02913					A		2005	0527		MX 2	005-		20050316				
	NO	2005	0016	95		A		2005	0405		NO 2	005-		20050405				
PRIORITY APPLN. INFO.:											EP 2	002-	2922	75		A 2	0020	917

US 2002-429507P P 20021126

OTHER SOURCE(S): MARPAT 140:270874

Ι

GI

R20 (CH2)m NH NH NH 0

- AB Title compds. I [m = 1, 2, 3; R1 = Me, C1, Br, F; R2 = (un)substituted alkyl, heterocyclic] were prepd.for use as inhibitors of PDE-7 (no data). Thus, I [R1 = C1, R2 = OCH2CH2NHCH2CO2Me] was treated with aqueous NH3 to give I [R1 = C1, R2 = OCH2CH2NHCH2CONNE2].
- IT 674336-39-1 674336-44-8 674336-59-5 RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of spirocondensed quinazolinones as phosphodiesterase inhibitors)
- RN 674336-39-1 CAPLUS
- CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-hydroxy-(CA INDEX NAME)

- RN 674336-44-8 CAPLUS
- CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-(2hydroxyethoxy)- (CA INDEX NAME)

- RN 674336-59-5 CAPLUS
- CN Glycine, N-[2-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclopentane-1,4'(1'H)-quinazolin]-5'-y1)oxy]ethy1]-, methy1 ester (9CI) (CA INDEX NAME)

IT 674336-41-5P 674336-46-0P 674336-51-7P

674336-53-9P 674336-55-1P 674336-56-2P

674336-57-3P 674336-58-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of spirocondensed quinazolinones as phosphodiesterase inhibitors)

RN 674336-41-5 CAPLUS

CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'[(methylthio)methoxy]- (CA INDEX NAME)

RN 674336-46-0 CAPLUS

CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-(2iodoethoxy)- (CA INDEX NAME)

RN 674336-51-7 CAPLUS

CN Spiro(cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-fluoro-5'-methoxy-(CA INDEX NAME)

- RN 674336-53-9 CAPLUS
- CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-fluoro-5'-hydroxy-(CA INDEX NAME)

- RN 674336-55-1 CAPLUS
- CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-fluoro-5'-[3-(methylthio)propoxy]- (CA INDEX NAME)

- RN 674336-56-2 CAPLUS
- CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-fluoro-5'[(methylthio)methoxy]- (CA INDEX NAME)

- RN 674336-57-3 CAPLUS
- CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 5'-[[1-(diphenylmethyl)-3-azetidinyl]oxy]-8'-fluoro- (CA INDEX NAME)

RN 674336-58-4 CAPLUS

CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 5'-(3-azetidinyloxy)-8'-fluoro- (CA INDEX NAME)

IT 674336-60-8P 674336-61-9P 674336-62-0P 674336-63-1P 674336-64-2P 674336-65-3P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of spirocondensed quinazolinones as phosphodiesterase inhibitors)

RN 674336-60-8 CAPLUS

CN Acetamide, 2-[[2-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclopentane-1,4'(1'H)-quinazolin]-5'-yl)oxy]ethyl]amino]- (9CI) (CA INDEX NAME)

$$\begin{array}{c} \bullet \\ \text{H}_2\text{N}-\text{C}-\text{CH}_2-\text{NH}-\text{CH}_2-\text{CH}_2-\text{O} \\ \bullet \\ \text{NH} \\ \text{NH} \\ \bullet \\ \text{O} \end{array}$$

RN 674336-61-9 CAPLUS

CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'[(methylsulfinyl)methoxy]- (CA INDEX NAME)

RN 674336-62-0 CAPLUS
CN Acetamide, N-[2-[[2-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclopentane-1,4'(1'H)-quinacolin]-5'-ylloxy]ethyllamino]ethyll- (9CI) (CA INDEX NAME)

RN 674336-63-1 CAPLUS
CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-fluoro-5'-[3(methylsulfinyl)propoxy]- (CA INDEX NAME)

RN 674336-64-2 CAPLUS

CN Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-fluoro-5'[(methylsulfinyl)methoxy]- (CA INDEX NAME)

RN 674336-65-3 CAPLUS

CM Spiro[cyclopentane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-fluoro-5'-[[1-(1Hpyrazol-3-ylmethyl)-3-azetidinyl]oxy]- (CA INDEX NAME)

REFERENCE COUNT: THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD, ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2002:754361 CAPLUS

DOCUMENT NUMBER: 137:247713

TITLE: Preparation of spirotricyclic quinoline derivatives and analogs and their use as phosphodiesterase-7

INVENTOR(S): Bernardelli, Patrick; Ducrot, Pierre; Lorthiois, Edwige; Vergne, Fabrice

PATENT ASSIGNEE(S): Warner-Lambert Company, USA SOURCE:

PCT Int. Appl., 116 pp. CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

	PATENT NO. 					A1 20021003				APPL		DATE  20010321				
	W:	US AT,					DK,			_			 IT,			
AP	1699				A		2006	1231		AP 2	003-	2857		20	0110	321
	W:	GM,	GH,	KΕ,			MZ,									
TW	W 267509			В		2006	1201		TW 2	002-	20	20020305				

CA	2441313	A1	CA 2002-2441313						20020318									
WO	2002074754				20	020	926		WO	200	)2-E	EP359	94					
	W: AE,	AG,	AL,	AM,	AT, A	U,	AZ,	BA,	BE	3, E	3G,	BR,	BY,	BZ,	CA.	CH,	CN,	
	co,	CR,	CU,	CZ,	DE, D	K,	DM,	DZ,	EC	. E	E.	ES,	FI.	GB,	GD.	GE,	GH,	
	GM,	HR,	HU,	ID,	IL, I	N,	IS,	JP,	KE	E, E	ζG,	KP,	KR,	KZ,	LC.	LK,	LR,	
	LS,	LT,	LU,	LV,	MA, M	ſD,	MG,	MK,	MN	1, 1	W,	MX,	MZ,	NO,	NZ,	OM,	PH,	
	PL,	PT.	RO,	RU,	SD, S	E,	SG.	SI,	SH	Ç. 5	SL,	TJ,	TM.	TN.	TR	TT,	TZ,	
	UA.	UG.	US.	UZ.	VN, Y	U.	ZA.	ZM.	ZV	v.								
	RW: GH,										rz.	UG,	ZM.	ZW.	AT.	BE,	CH,	
					FI, F													
					CI, C													
AU	20023048	00		A1	20	021	1003		AU	200	2-3	30480	00			20020	318	
AU	20023048	00		B2			0830											
EP	1373224			A1	20	040	102		EP	200	2-	/325	44		- 1	20020	318	
EP	1373224			B1			718											
	R: AT,	BE, 0	CH,	DE,	DK, E	s,	FR,	GB,	GF	٦, ١	IT,	LI,	LU,	NL,	SE,	MC,	PT,	
	IE,	SI,	LT,	LV,	FI, F	10,	MK,	CY,	ΑI	, 1	ľR							
EE	20030045	9		A	20	040	216		EΕ	200	3-4	159				20020	318	
HU	20030036	37		A2	20	040	301		HU	200	3-3	3637			- :	20020	318	
HU	20030036	37		A3	20	040	728											
BR	20020081	92		A	20	040	302		BR	200	2-8	3192			- 2	20020	318	
CN	1498212			A	20	040	)519		CN	200	)2-8	3069	71		- 2	20020	318	
JP	20045291	23		T	20	040	924		JΡ	200	2-5	57376	53		- 2	20020	318	
NZ	527847			A	20 20 20 20 20 20 20	050	624		NZ	200	2-5	278	47		- 2	20020 20020	318	
EP	1801106			A2	20	070	627		EΡ	200	7-1	1046	12		- 2	20020	318	
EP	1801106			A.3	20	10 / L	)/04											
					DE, D							GR,	ΙE,	IT,	LI,	LU,	MC,	
		PT,	SE,		AL, L	Τ,	LV,	MK,	RC	), S	ΞI							
AT	367381			T	20	070	815		ΑT	200	)2-"	7325	44		- :	20020 20020 20020 20030 20030 20030 20030	318	
ES	2288552			Т3	20	080	116		ES	200	2-	/325	44		- 2	20020	318	
US	20020198	198		A1	20	021	1226		US	200	)2-1	10199	96		- 2	20020	319	
ZA	20020196 20030066 2003DN01 108181 20030041 2003PA08	01		Α	20	040	825		$z_{A}$	200	)3-6	601			- 2	20030	825	
IN	2003DN01	358		А	20	0070	)112		IN	200	)3-I	N13	58			20030	826	
BG	108181			A	20	040	930		BG	200	)3-1	10818	31		- 2	20030	917	
NO	20030041	87		A	20	031	1015		ИО	200	)3-4	1187				20030	919	
MX	2003PA08	485		A	20	031	1208		MX	200	)3-E	PA848	35		- 2	20030	919	
0.5	20040214	843		Al	20	1041	1020		US	200	4-8	35240	) 4		- 2	20040	524	
US	7214676			B2			508											
	20070049	558		A1			301		US	200	06-5	5168	37		- 3	20061	020	
	20072401			A1	20	080	103		ΑU	200	7-2	2401	76		- 3	20071	207	
PRIORITY	Y APPLN.	INFO.	:						WO	200	)1-E	EP33	55		A :	20010	321	
																20020		
									EP	200	)2-	7325	14		A3 2	20020 20020	318	
									WO	200	)2-E	EP359	14		W :	20020	318	
															B1 :	20020	319	
									US	200	)4-8	35240	)4		A3 2	20040	524	

OTHER SOURCE(S): MARPAT 137:247713 GI



- AB Title compds. I (XI-4 = N provided that not more than two of XI-4 simultaneously represent N; C-RI; RI = QI, alk(en/yn)yl, QI = H, halo, CN, NO2, SO3H, etc.; when XI-2 both represent C-RI, the 2 substituents RI may form together with the carbon atoms to which they are attached, a 5-membered heterocyclic ring; X is 0, NR9; R9 = H, CN, OH, NH2, alk(en/yn)yl; Y = 0, S, NR12; R12 = H, CN, OH, NH2, alk(en/yn)yl; Z = CH-NO2, O, S, NR13; R13 = H, CN, OH, NH2, aryl, heteroaryl, cycloalkyl, etc.; A = cyclohexyl, heterocyclyl, etc. and tautomeric analogs] were prepared For instance, II was prepared from 2,5-dichlorophenylurea, cyclohexanone and polyphosphoric acid in 7% yield. II had ICSO = 0.014 µM for the PDE7 receptor. I are useful for the treatment of autoimmune diseases, osteoarthritis, etc.
- IT 460345-40-8P, 6'-Methoxyspiro[cyclohexane-1,4'-quinazolin]-2'(1'H) one 460345-42-0P, 7'-Methoxyspiro[cyclohexane-1,4'-quinazolin] 2'(1'H)-one 460345-44-2P, 8'-Methoxyspiro[cyclohexane-1,4' quinazolin]-2'(1'H)-one 460345-65-7P, 8'-Chloro-6' methoxyspiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one
   RL: PAC (Pharmacological activity); SFN (Synthetic preparation); THU
   (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
   (Uses)

(PDE7 inhibitor; preparation of spirotricyclic quinoline derivs. and analogs and use as phosphodiesterase-7 inhibitors)

RN 460345-40-8 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 6'-methoxy- (CA INDEX NAME)

RN 460345-42-0 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 7'-methoxy- (CA INDEX NAME)

RN 460345-44-2 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-methoxy- (CA INDEX NAME)

RN 460345-65-7 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-6'-methoxy-(CA INDEX NAME)

REFERENCE COUNT:

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:736240 CAPLUS

DOCUMENT NUMBER: 137:247712

TITLE: Preparation of spirotricyclic quinoline derivatives and analogs and their use as phosphodiesterase-7

THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS

inhibitors
INVENTOR(S): Bernardelli, Patrick; Ducrot, Pierre; Lorthiois,

Edwige; Vergne, Fabrice

PATENT ASSIGNEE(S): Warner-Lambert Company, USA SOURCE: PCT Int. Appl., 187 pp.

CODEN: PIXXD2 Patent

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND DATE	APPLICATION NO.	DATE			
WO 2002074754	A1 20020926	WO 2002-EP3594	20020318			
W: AE, AG, AL,	AM, AT, AU, AZ,	BA, BB, BG, BR, BY, BZ,	CA, CH, CN,			
CO, CR, CU,	CZ, DE, DK, DM,	DZ, EC, EE, ES, FI, GB,	GD, GE, GH,			
GM, HR, HU,	ID, IL, IN, IS,	JP, KE, KG, KP, KR, KZ,	LC, LK, LR,			
LS, LT, LU,	LV, MA, MD, MG,	MK, MN, MW, MX, MZ, NO,	NZ, OM, PH,			
PL, PT, RO,	RU, SD, SE, SG,	SI, SK, SL, TJ, TM, TN,	TR, TT, TZ,			
UA, UG, US,	UZ, VN, YU, ZA,	ZM, ZW				
RW: GH, GM, KE,	LS, MW, MZ, SD,	SL, SZ, TZ, UG, ZM, ZW,	AT, BE, CH,			
CY, DE, DK,	ES, FI, FR, GB,	GR, IE, IT, LU, MC, NL,	PT, SE, TR,			
BF, BJ, CF,	CG, CI, CM, GA,	GN, GQ, GW, ML, MR, NE,	SN, TD, TG			
WO 2002076953	A1 20021003	WO 2001-EP3355	20010321			

	W:	US																
	RW:	AT,	BE,	CH,	CY,	DE,	DK,	ES,	FI,	FF	٦,	GB,	GR,	IE,	IT,	LU,	MC,	NL,
		PT,	SE,	TR														
CA	2441	313			A1		2002	0926		CA	20	02-	2441	313		- 2	20020	318
AU	2002	3048	00		A1		2002	1003		ΑU	20	02-	3048	00		- 2	20020	318
AU	2002	3048	00		B2		2007	0830										
EP	1373	224			A1		2004	0102		EP	20	02-	7325	44		- 3	20020	318
EP	1373	224			B1		2007	0718										
	R:	ΑT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GI	٦,	IT,	LI,	LU,	NL,	SE,	MC,	PT,
				LT,	LV,		RO,											
EE	2003	0045	9		A		2004										20020	318
HU	2003	0036					2004	0301		HU	20	03-	3637			- 2	20020	318
HU	2003	0036	37		A3		2004	0728										
	2002				A		2004										20020	
JP	2004	5291:	23		T		2004	0924		JΡ	20	02-	5737	63		- 2	20020	318
	5278				A		2005							47			20020	
	2003		358		A		2007	0112						58			20030	
BG	1081	81			A		2004	0930		BG	20	03-	1081	81		- 2	20030	917
	2003						2003										20030	
	2003				A		2003							85			20030	
AU	2007	2401	76		A1		2008	0103		ΑU	20	07-	2401	76		- 2	20071	207
PRIORITY	Y APP	LN.	INFO	.:										55			20010	
														00			20020	
										WO	20	02-1	EP35	94		W S	20020	318
OTHER SO	DURCE	(S):			MARI	PAT	137:	24771	12									
GI																		

II

- AB Title compds. I [X1-4 = N provided that not more than two of X1-4 simultaneously represent N; C-R1; R1 = Q1, alk(en/yn)yl, Q1 = H, halo, CN, NO2, SO3H, etc.; when X1-2 both represent C-R1, the 2 substituents R1 may form together with the carbon atoms to which they are attached, a 5-membered heterocyclic ring; X is O, NR9; R9 = H, CN, OH, NH2, alk(en/yn)yl; Y = O, S, NR12; R12 = H, CN, OH, NH2, alk(en/yn)yl; Z = CH-NO2, O, S, NR13; R13 = H, CN, OH, NH2, aryl, heteroaryl, cycloalkyl, etc.; A = cyclohexyl, heterocyclyl, etc. and tautomeric analogs] were prepared For instance, II was prepared from 2,5-dichlorophenylurea, cyclohexanone and polyphosphoric acid in 7% yield. II had ICSO = 0.014 µN for the PDE7 receptor. I are useful for the treatment of autoimmune diseases, osteoarthritis, etc.
- IT 460346-10-5F, 8'-Chloro-5'-hydroxyspiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one 460346-11-6F, 8'-Chloro-5'-hydroxy-6'-iodospiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one 460346-12-7P, 8'-Chloro-6'-iodo-5'-methoxyspiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one 460346-28-5P, 8'-Chloro-6'-(2-hydroxyethoxy)spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one 460346-31-0P, 8'-Chloro-5'-cyanomethoxyspiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one 460346-37-6P, 6'-(4-Carboxyehenyl)-8'-chloro-5'-

methoxyspiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one 460346-60-5P
, 8'-Chloro-5'-[2-(((ethoxycarbonyl)methyl)amino)ethoxy]spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic

preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(PDE7 inhibitor; preparation of spirotricyclic quinoline derivs. and analogs and use as phosphodiesterase-7 inhibitors)

RN 460346-10-5 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-hydroxy-(CA INDEX NAME)

RN 460346-11-6 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-hydroxy-6'-iodo- (CA INDEX NAME)

RN 460346-12-7 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-6'-iodo-5'methoxy- (CA INDEX NAME)

RN 460346-28-5 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-(2-hydroxyethoxy)- (CA INDEX NAME)

RN 460346-31-0 CAPLUS
CN Acetonitrile, [(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)quinazolin]-5'-yl)oxy]- (9CI) (CA INDEX NAME)

RN 460346-37-6 CAPLUS

CN Benzoic acid, 4-(8'-chloro-2',3'-dihydro-5'-methoxy-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-6'-y1)- (9CI) (CA INDEX NAME)

RN 460346-60-5 CAPLUS

CN Glycine, N-[2-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]ethyl]-, ethyl ester (9CI) (CA INDEX NAME)

```
one 460345-42-0P, 7'-Methoxyspiro[cyclohexane-1,4'-quinazolin]-
     2'(1'H)-one 460345-44-2P, 8'-Methoxyspiro[cyclohexane-1,4'-
     quinazolin]-2'(1'H)-one 460345-65-7P, 8'-Chloro-6'-
     methoxyspiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one 460346-02-5P
     , 8'-Chloro-5'-methoxyspiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one
     460346-13-8P, 8'-Chloro-6'-cvano-5'-methoxyspiro[cyclohexane-1,4'-
     guinazolin | -2'(1'H) - one 460346-14-9P, 8'-Chloro-5'-[2-(4-
     morpholino)ethoxy]spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one
     460346-15-0P, 8'-Chloro-5'-(2-dimethylaminoethoxy)spiro[cyclohexan
     e-1,4'-quinazolin]-2'(1'H)-one 460346-16-1P,
     8'-Chloro-5'-(2-aminoethoxy)spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one
     460346-18-3P, 8'-Chloro-5'-[2-(methylamino)ethoxylspiro[cyclohexan
     e-1, 4'-quinazolin]-2'(1'H)-one 460346-19-4P,
     8'-Chloro-5'-[2-(2-aminoethoxy)ethoxy]spiro[cyclohexane-1,4'-quinazolin]-
     2'(1'H)-one 460346-21-8P, 8'-Chloro-5'-(3-
     (dimethylamino)propoxy)spiro[cyclohexane-1, 4'-quinazolin]-2'(1'H)-one
     460346-22-9P, 8'-Chloro-5'-ethoxycarbonylmethoxyspiro[cyclohexane-
     1,4'-quinazolin]-2'(1'H)-one 460346-23-0P, 5'-Carboxymethoxy-8'-
     chlorospiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one 460346-24-1P
     5'-(3-(Carboxy)propoxy)-8'-chlorospiro[cyclohexane-1,4'-quinazolin]-
     2'(1'H)-one 460346-26-3P, 8'-Chloro-5'-(3-
     sulfopropoxy) spiro[cyclohexane-1, 4'-quinazolin]-2'(1'H)-one
     460346-27-4P 460346-29-6P, 8'-Chloro-5'-(5-
     ethoxycarbonylfuran-2-vlmethoxy)spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-
     one 460346-30-9P, 8'-Chloro-5'-(5-carboxyfuran-2-
     ylmethoxy)spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one
     460346-32-1P, 8'-Chloro-5'-(1H-tetrazol-5-
     ylmethoxy)spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one
     460346-33-2P, 8'-Chloro-5'-(5-hydroxy-[1,2,4]oxadiazol-3-
     vlmethoxy)spiro(cyclohexane-1,4'-quinazolin)-2'(1'H)-one
     460346-36-5P, 8'-Chloro-6'-iodo-5'-(2-
     (dimethylamino)ethoxy)spiro[cyclohexane-1, 4'-quinazolin]-2'(1'H)-one
     460346-38-7P, 6'-(3-Carboxyphenyl)-8'-chloro-5'-
     methoxyspiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one 460346-48-9P
     , 8'-Chloro-5'-methoxy-6'-[4-[[4-methylpiperazine]carbonyl]phenyl]spiro[cy
     clohexane-1, 4'-quinazolin]-2'(1'H)-one 460346-57-0P,
     8'-Chloro-5'-(3-dimethylamino-2-hydroxypropoxy)spiro(cyclohexane-1,4'-
     quinazolin]-2'(1'H)-one 460346-59-2P, 8'-Chloro-5'-(3-
     methylamino-2-hydroxypropoxy)spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-
     one 460346-61-6P, 8'-Chloro-5'-[2-(((carboxy)methyl)amino)ethoxy
     ]spiro[cyclohexane-1, 4'-quinazolin]-2'(1'H)-one hydrochloride
     460346-63-8P, 8'-Chloro-5'-(2-((methanesulfonv1)amino)-2-
     oxoethoxy)spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one
     460346-64-9P, 8'-Chloro-5'-[2-[(5-methylisoxazol-3-
     vlmethyl)amino]ethoxy]spiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-one
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (PDE7 inhibitor; preparation of spirotricyclic quinoline derivs. and analogs
        and use as phosphodiesterase-7 inhibitors)
     460345-40-8 CAPLUS
RN
    Spiro[cyclohexane-1,4'(1'H)-guinazolin]-2'(3'H)-one, 6'-methoxy- (CA
     INDEX NAME)
```

460345-40-8P, 6'-Methoxyspiro[cyclohexane-1,4'-quinazolin]-2'(1'H)-

RN 460345-42-0 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 7'-methoxy- (CA INDEX NAME)

RN 460345-44-2 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-methoxy- (CA INDEX NAME)

RN 460345-65-7 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-6'-methoxy-(CA INDEX NAME)

RN 460346-02-5 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-methoxy-

(CA INDEX NAME)

RN 460346-13-8 CAPLUS
CN Spiro[cyclohexane-1,4'('H)-quinazoline]-6'-carbonitrile,
8'-chloro-2',3'-dihydro-5'-methoxy-2'-oxo- (CA INDEX NAME)

RN 460346-14-9 CAPLUS
CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[2-(4-morpholiny)]-thoxy]- (CA INDEX NAME)

RN 460346-15-0 CAPLUS
CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[2(dimethylamino)ethoxy]- (CA INDEX NAME)

RN 460346-16-1 CAPLUS
CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 5'-(2-aminoethoxy)-8'-chloro- (CA INDEX NAME)

RN 460346-18-3 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[2-(methylamino)ethoxy]- (CA INDEX NAME)

RN 460346-19-4 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 5'-[2-(2aminoethoxy)ethoxy]-8'-chloro- (CA INDEX NAME)

RN 460346-21-8 CAPLUS

CN Spiro(cyclohexane=1,4'(1'H)-quinazolin]=2'(3'H)-one, 8'-chloro-5'=[3-(dimethylamino)propoxy]- (CA INDEX NAME)

RN 460346-22-9 CAPLUS

CN Acetic acid, [(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]-, ethyl ester (9CI) (CA INDEX NAME)

RN 460346-23-0 CAPLUS

CN Acetic acid, [(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)quinazolin]-5'-yl)oxy]- (9CI) (CA INDEX NAME)

RN 460346-24-1 CAPLUS

CN Butanoic acid, 4-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]- (9CI) (CA INDEX NAME)

RN 460346-26-3 CAPLUS

CN 1-Propanesulfonic acid, 3-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]- (9CI) (CA INDEX NAME)

RN 460346-27-4 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[2-[(tetrahydro-2H-pyran-2-yl)oxy]ethoxy]- (CA INDEX NAME)

RN 460346-29-6 CAPLUS

CN 2-Furancarboxylic acid, 5-[[(8'-chloro-2',3'-dihydro-2'oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-y1)oxy]methyl]-, ethyl ester
(9C1) (CA INDEX NAME)

10/ 667,111

CN

RN 460346-30-9 CAPLUS

2-Furancarboxylic acid, 5-[[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]methyl]- (9CI) (CA INDEX NAME)

RN 460346-32-1 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-(1Htetrazol-5-ylmethoxy)- (9CI) (CA INDEX NAME)

RN 460346-33-2 CAPLUS
CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[(2,5-dihydro-5-oxo-1,2,4-oxadiazol-3-y1)methoxy]- (CA INDEX NAME)

RN 460346-36-5 CAPLUS
CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[2(dimethylamino)ethoxy]-6'-iodo- (CA INDEX NAME)

RN 460346-38-7 CAPLUS

CN Benzoic acid, 3-(8'-chloro-2',3'-dihydro-5'-methoxy-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-6'-yl)- (9CI) (CA INDEX NAME)

RN 460346-48-9 CAPLUS

RN 460346-57-0 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[3-(dimethylamino)-2-hydroxypropoxy]- (CA INDEX NAME)

RN 460346-59-2 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[2-hydroxy-3-(methylamino)propoxy]- (CA INDEX NAME)

RN 460346-61-6 CAPLUS

CN Glycine, N-[2-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)quinazolin]-5'-yl)oxy]ethyl]-, monohydrochloride (9CI) (CA INDEX NAME)

● HCl

RN 460346-63-8 CAPLUS

RN 460346-64-9 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[2-[[(5methyl-3-isoxazolyl)methyl]amino]ethoxy]- (CA INDEX NAME)

IT 460346-17-2P, 8'-Chloro-5'-(2-(methanesulfonyl)ethoxy)spiro[cycloh
exane-1, 4'-quinazolin]-2'(1'H)-one 460346-20-7P
460346-25-2P 460346-34-3P, 8'-Chloro-5'-(Nhydroxyozarbamimidoylmethoxy)spiro[cyclohexane-1, 4'-quinazolin]-2'(1'H)-one
460346-58-1P, 8'-Chloro-5'-(oxiran-2-ylmethoxy)spiro[cyclohexane1, 4'-quinazolin]-2'(1'H)-one
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
(intermediate; preparation of spirotricyclic quinoline derivs. and analogs

RN 460346-17-2 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'-[2-(methylsulfonyl)ethoxy]- (CA INDEX NAME)

and use as phosphodiesterase-7 inhibitors)

RN 460346-20-7 CAPLUS

1H-Isoindole-1,3(2H)-dione, 2-[2-[2-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]ethoxy]ethoy]- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

RN 460346-25-2 CAPLUS

CN Butanoic acid, 4-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]-, ethyl ester (9CI) (CA INDEX NAME)

RN 460346-34-3 CAPLUS

CN Ethanimidamide, 2-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane-1,4'(1'H)-quinazolin]-5'-yl)oxy]-N-hydroxy- (9CI) (CA INDEX NAME)

RN 460346-58-1 CAPLUS

CN Spiro[cyclohexane-1,4'(1'H)-quinazolin]-2'(3'H)-one, 8'-chloro-5'(oxiranylmethoxy)- (9CI) (CA INDEX NAME)

IT 460346-35-4

RL: RCT (Reactant); RACT (Reactant or reagent) (reactant; preparation of spirotricyclic quinoline derivs. and analogs and use as phosphodiesterase-7 inhibitors)

RN 460346-35-4 CAPLUS

CN Ethanimidamide, 2-[(8'-chloro-2',3'-dihydro-2'-oxospiro[cyclohexane1,4'(1'H)-quinazolin]-5'-yl)oxy]-N-[(ethoxycarbonyl)oxy]- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

(FILE 'HOME' ENTERED AT 10:41:38 ON 23 APR 2008)

FILE 'REGISTRY' ENTERED AT 10:42:15 ON 23 APR 2008

L1 STRUCTURE UPLOADED

L2 5 S L1 L3 87 S L1 FUL

FILE 'CAPLUS' ENTERED AT 10:42:56 ON 23 APR 2008

L4 8 S L3

CA SUBSCRIBER PRICE

=> log y
COST IN U.S. DOLLARS
SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST 44.08 222.65

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)
ENTRY SESSION
ENTRY SESSION
ENTRY SESSION

-6.40

-6.40

STN INTERNATIONAL LOGOFF AT 10:43:35 ON 23 APR 2008